



c09-c-105

3015

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2015

DCE—FIRST YEAR EXAMINATION

SURVEYING—I

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State the classification of survey based on the object of survey.
2. What is the formula to calculate the area of a piece of land using Simpson's rule. Give a neat sketch.
3. State the functions of ranging rod, plumb bob, and cross staff.
4. Define (a) offset, (b) perpendicular offset, and (c) oblique offset.
5. Convert the following reduced bearing into whole circle bearing :
 - (a) N 60° 30 W
 - (b) S 80° 0 E
 - (c) S 20° 45 W

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6. Find the angle between the lines AB and BC if their respective bearings are (a) AB N 76 38 E and AC S 53 12 E
(b) AB S 36 12 W and AC N 69 48 W.
7. Compare the line of collimation with rise and fall method in levelling.
8. Briefly explain about reciprocal levelling with neat sketch.
9. Explain curvature correction and refraction correction in levelling.
10. List any three uses of Abney level.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. What are the precautions to be taken while entering the measurements and details in chain field book?
12. A survey straight line $ABDE$ intersects a building between B and D . To overcome the obstacle perpendicular BC 90 m long is set out at B from C . Two lines CD and CE are set out at angles 45° and 60° respectively with CB . Find the lengths CD and CE such that points D and E fall on the prolongation of line AB . Find the obstructed distance BD .
13. List any 10 parts of prismatic compass and state their functions.
14. (a) Define Fore Bearing and Back Bearing and state the relation between them. 3
(b) What is the difference between WCB system and QB/RB system? 3
(c) The true bearing of a line AB is $125^\circ 30'$ and the magnetic declination is $10^\circ 45'$ W. Find the magnetic bearing of AB . 4

15. Following is a page of an old level field book in which certain entries are missing, find the missing entries :

Station	BS	IS	FS	Rise	Fall	RL	Remarks
1	2.345					129.25	BM1
2	1.650		?	0.035			
3		2.210			?		
4	?		1.850	?			
5	1.850		1.925		0.455		
6		?		?		129.00	BM2
7	1.690		1.140				
8			?		?	128.500	BM3

16. List the methods of contouring. Explain any one method.
17. Explain with the aid of a neat sketch the constructional details of a dumpy level.
18. Explain with neat sketch how the plans are enlarged or reduced by using Pantograph.

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